

Application No.: 10/725,207

Case No.: 58209US004

Remarks

Claims 1-37 are pending. Claims 3-5 have been canceled. Claims 1, 13, and 15 have been amended.

Please cancel claims 3-5.

Claims 1 and 13 have been amended to require that the cure site be selected from an amidine group, a salt thereof, and combinations thereof. Support for the amendments to claims 1 and 13 can be found at, e.g., page 3, lines 28-29; and original claim 3.

Claim 15 has been amended to correct a minor typographical error.

§ 102 Rejections

Claims 1-10 and 12-14 stand rejected under 35 USC § 102(b) as purportedly being anticipated by EP 0 829 494 A2 = patent family U.S. Patent 5,780,552 to Kerbow.

As amended, independent claims 1 and 13 require a fluoroplastic comprising a nitrogen-containing cure site selected from an amidine group, a salt thereof, and combinations thereof. Applicants respectfully submit that Kerbow fails to describe such a fluoroplastic and, thus, fails to teach all elements of the claimed invention. For at least this reason, the rejection of claims 1-10 and 12-14 under 35 USC § 102(b) as purportedly being anticipated by Kerbow has been overcome and should be withdrawn.

§ 103 Rejections**Claim 11**

Claim 11 stands rejected under 35 USC § 103(a) as purportedly being unpatentable over Chen et al. U.S. Patent 6,310,141 in view of EP 0 829 494 (Kerbow).

Claim 11 depends from claim 1. Claim 1 is patentable over Kerbow for at least the reasons stated above. The Patent Office acknowledges that Chen et al. fail to disclose a nitrogen-containing cure site monomer. (Office action mailed March 18, 2005 at page 4.) Therefore, without conceding that proper motivation exists to combine the references, Applicants respectfully submit that Chen et al. fail to overcome the deficiencies of Kerbow. For at least this reason, the rejection of claim 11 under 35 USC § 103(a) as purportedly being unpatentable over Chen et al. in view of Kerbow has been overcome and should be withdrawn.

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Claims 15-37

Claims 15-37 stand rejected under 35 USC § 103(a) as purportedly being unpatentable over Chen et al. U.S. Patent 6,310,141 in view of EP 0 829 494 (Kerbow).

Background

Each of independent claims 15, 24, 33, and 35 requires a fluoroplastic comprising a nitrogen-containing cure site and units derived from a fluorinated monomer. Unlike typical fluoroplastics, which lack cure sites, fluoroplastics according to the invention can participate in the crosslinking reaction with an amorphous fluoroelastomer gum during cure. (Page 2, lines 11-13.)

Chen et al. independently describe (1) a latex blended composition that includes a fluoroelastomer and a fluoroplastic (col. 1, line 60 – col. 2, line 5), and (2) a core-shell polymer that includes a fluoroelastomer precursor shell and a fluoroplastic core (col. 3, lines 18-36). The Patent Office acknowledges that Chen et al. fail to disclose a nitrogen-containing cure site monomer. (Office action mailed March 18, 2005 at page 4.) Furthermore, Chen et al. explicitly state that “[t]he compositions include a cured fluoroelastomer and an uncured, higher melting fluoroplastic.” (Col. 3, lines 52-53, emphasis added.)

Kerbow describes fluoropolymers having a core/shell structure with functional units in the shell. (Col. 2, lines 32-37.) The fluoropolymers in the core and the shell are copolymers of TFE and at least one fluorinated comonomer other than a functional monomer. The amount of non-functional comonomer is sufficient to reduce the melting point of the fluoropolymer substantially below that of TFE homopolymer. The fluoropolymers constituting the Kerbow particles are melt flowable, and would be melt flowable even without the functional monomer present. (Col. 5, lines 28-43.) Thus, it is believed that both the core and shell polymers of Kerbow are fluoroplastics.

According to Kerbow, a functional monomer is incorporated into the shell to provide the capability to interact with other materials to achieve an adhesive bond. (Col. 4, lines 12-19.) Kerbow describes a variety of potential functional monomers including ester, alcohol, acid and salt and halide thereof, cyanate, carbamate, and nitrile. (Col. 4, lines 24-27.) Kerbow explicitly states that the selection of the functional monomer “will depend on the particular substrate to which the fluorinated polymer is to be adhered.” (Col. 2, lines 43-46.)

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Patent Office's Argument

According to the Patent Office, it would have been obvious to one of ordinary skill in the art to employ the core-shell polymer having functional nitrile in the fluoroplastic shell segment as purportedly disclosed in Kerbow into the cured, latex blended compositions featuring a fluoroelastomer and a fluoroplastic of Chen's invention. (Office action mailed March 18, 2005 at page 4.)

Applicants' Arguments

1. The Patent Office has failed to provide a proper motivation for combining the core-shell polymers of Kerbow with the latex blended compositions of Chen et al.

In order to present a *prima facie* case of obviousness there must be some suggestion or motivation to combine reference teachings founded in the prior art, and not based on Applicants' disclosure. (See *In re Dow Chemical Co.*, 837 F.2d 469, 473; 5 USPQ2d 1529, 1531 (Fed. Cir. 1988).) As discussed above, Chen et al. describe either a latex blended composition or a core-shell polymer, while Kerbow describes a core-shell polymer. Applicants respectfully submit that the Patent Office has failed to show how either reference describes, teaches, or suggests the combination of a core-shell polymer with a latex blended composition, as asserted in the above rejection. Therefore, the Patent Office has failed to establish a *prima facie* case of obviousness, and the rejection should be withdrawn.

2. The Patent Office has failed to provide proper motivation for replacing the curable elastomeric shell of Chen et al. with the functionalized thermoplastic shell of Kerbow.

The mere fact that a reference can be modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. (See *In re Gordon*, 733 F.2d 900, 902; 221 USPQ 1125, 1127 (Fed. Cir. 1984).) Portions of a reference arguing against or teaching away from the claimed invention must be considered. (See *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 448; 230 USPQ 416, 420 (Fed. Cir. 1986).) If the proposed modification would render the prior art invention unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. (See *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).)

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As discussed above, Chen et al. explicitly describe a curable a fluoroelastomer shell and an uncured fluoroplastic core. Replacing the fluoroelastomer shell of Chen et al. with the fluoroplastic shell of Kerbow would be contrary to Chen et al.'s express teachings, and would destroy its functionality. Thus, Applicants respectfully submit that the modification proposed by the Patent Office is improper and the rejection should be withdrawn.

3. The Patent Office has failed to provide a proper motivation for selecting any specific functional monomer from Kerbow for combination with Chen et al.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success both must be founded in the prior art, and not based on Applicants' disclosure. (See *In re Dow Chemical Co.*, 837 F.2d 469, 473; 5 USPQ2d 1529, 1531 (Fed. Cir. 1988).) As discussed above, Kerbow explicitly states that the choice of functional monomer depends on the particular substrate to which the fluorinated polymer is to be adhered. The Patent Office has failed to show how Kerbow would motivate one of ordinary skill in the art to select any functional monomer to provide a cure site, nonetheless a nitrogen-containing cure site as required by the present claims. Furthermore, the Patent Office acknowledges that Chen et al. fail to disclose a nitrogen-containing cure site monomer. (Office action mailed March 18, 2005 at page 4.) Thus, Applicants respectfully submit that, absent the impermissible use of hindsight garnered from Applicants' own specification, (see, e.g., *Ashland Oil, Inc. v. Delta Resins and Refractories, Inc.*, 776 F.2d 281, 297; 227 USPQ 657, 667 (Fed. Cir. 1985)), the Patent Office has failed to provide the requisite motivation to combine the references as suggested and therefore the rejection should be withdrawn.

In summary, Applicants respectfully submit that the Patent Office has failed to establish the requisite *prima facie* case of obviousness. First, the Patent Office has failed to establish a proper basis for its assertion that it would be obvious to combine the core-shell polymer of Kerbow with a latex blend of Chen et al. Second, the proposed modification of Chen et al. is contrary to the express teachings of Chen et al. Finally, absent the impermissible use of hindsight, the Patent Office has failed to provide a basis for selecting any nitrogen-containing cure-site monomer from the list of monomers present in Kerbow. For at least any one of these

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reasons, the rejection of claims 15-37 under 35 USC § 103(a) as purportedly being unpatentable over Chen et al. in view of EP 0 829 494 is unwarranted and should be withdrawn.

Double Patenting

Claims 1-10 stand rejected under 35 USC § 101 as purportedly claiming the same invention as that of claims 1-26 of prior U.S. Patent No. 6,803,425.

According to the Patent Office, fluoropolymers having pendant imidate structures are readable in the present claims (i.e., the claims as previously presented). Applicants respectfully submit that amendment to claim 1 overcomes this rejection, and respectfully request that it be withdrawn.

Conclusion

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Allowance of claims 1, 2, and 6-37, as amended, at an early date is solicited.

If any issues remain, the Examiner is invited to contact Applicants' representative at the number listed below.

Respectfully submitted,

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Date

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